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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,310	01/22/2002	Hiroyuki Nakamura	33216M534833	5209

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EXAMINER

SUMMONS, BARBARA

ART UNIT PAPER NUMBER

2817

DATE MAILED: 01/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/051,310

Applicant(s)

Nakamura et al.

Examiner

Paula Summons

Group Art Unit

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— The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 (three) MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- ☐ Responsive to communication(s) filed on _____
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-40 is/are pending in the application.
- ☐ Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1, 22, 23, 29, 35, 39 and 40 is/are rejected.
- ☐ Claim(s) 2-21, 24-28, 30-34 and 36-38 is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner
- ☒ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).
- ☒ All ☐ Some* ☐ None of the:
 - ☒ Certified copies of the priority documents have been received. (Japan 2001-211345 received in this case)
 - ☒ Certified copies of the priority documents have been received in Application No. 08/862,383. (All other JP priority docs)
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 6
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

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DETAILED ACTION

Specification

1. Cross-references to the related applications are required to be added at the first line of the specification as per 37 CFR § 1.78 [see also MPEP §§ 201.11 and 202.01]. A statement similar to the following should be inserted as the first line of the specification:

--This application is a continuation-in-part of application no. 09/794,035, filed on 02/28/2001, now U.S. Pat. No. 6,348,845, which is a divisional of application no. 09/390,653, filed on 09/07/1999, now U.S. Pat. No. 6,351,196, which is a divisional of application no. 08/862,383, filed on 05/23/1997, now U.S. Pat. No. 5,990,762.--

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. § 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 22, 29 and 35 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 22 recites the limitation "said "connection"" in line 2. There is insufficient antecedent basis for this limitation in the claim. Should "said "connection" means that," simply be

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deleted? The Examiner believes that the structure recited in the remainder of the claim is clear on its own and that will be the interpretation of the claim in any art rejections that may follow.

Each of claims 29 and 35 recite the limitation "said plurality means 2" or "said plurality means two", on lines 2 thereof. This limitation is unclear as ^{to 35} ~~two~~ which of the previously recited "plurality" is intended to be two. For example, is it the previously recited: the "plurality of ... surface acoustic wave filters" (see claims 28 and 34 at lines 3-4); the "plurality of IDT electrodes" (see claims 28 and 34 at line 4); the "plurality of reflector electrodes" (see claims 28 and 34 at line 5); or the "plurality of electrode fingers" (see claims 24 and 30 at line 6). For the purposes of any art rejections to follow, the Examiner will use the first definition and ignore the unclear limitation, since claims 29 and 35 subsequently recite a "first surface acoustic wave filter" and a "second surface acoustic wave filter" (see claims 29 and 35 at lines 3-4).

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground

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provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1, 2 and 39 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 5 of U.S. Patent No. 6,351,196 ('196). Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 5 of the '196 patent recites every limitation of claims 1 and 2 of the instant application plus additional structure. That is, the '196 patent recites a surface acoustic wave filter including an interdigital transducer having divisional IDTs (claim 1, last two lines) connected to balanced terminals (see claim 5), wherein the IDTs connected in phase and in reverse phase (see claim 3, lns. 2-10) inherently are "equivalently connected in series...in parallel" as recited in the instant application claim 2. Regarding claim 39 of the instant application, such a communication apparatus is considered an obvious intended use of the IDT/filter as would have been known by one of ordinary skill in the art and as evidenced by numerous prior art references of record.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

9. Claims 1 and 39 are rejected under 35 U.S.C. § 102(b) as being anticipated by Saw et al. U.S. 5,365,138 (of record, cited by Applicants).

Fig. 2 of Saw et al. '138 discloses an interdigital transducer IDT 12 (Fig. 1) that is divided into a plurality of two divisional IDT electrodes 34 and 36 in Fig. 2 (see col. 3, lns. 62-64) and connected to a balanced type terminal 42 (see col. 4, lns. 14-15). The IDT electrode is on a piezoelectric substrate 10, and has a pair of upper bus bar electrode (44, 46) and lower bus bar electrode 26 facing each other with electrode fingers extending therebetween.

Regarding claim 39, Saw et al. discloses the IDT is used in an IF filter in cellular radio equipment (see col. 31-31-37 and 54-56) which is a communication apparatus that inherently has a transmission circuit and a reception circuit, wherein the divisional IDT of the IF filter is "used for said transmission circuit and/or said reception circuit".

10. Claims 1, 23/1, 39 and 40 are rejected under 35 U.S.C. § 102(e) as being anticipated by Saw et al. U.S. 5,835,990.

Fig. 15 of Saw et al. '990 discloses a surface acoustic wave filter comprising: a piezoelectric substrate 34; a plurality of IDT electrodes (36, 38, 40) having a pair of upper bus

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bar electrode (46a, 46b, 50, 54) and lower bus bar electrode (48, 52, 56) facing each other with a plurality of electrode fingers extending therebetween; a plurality of reflector electrodes (42,44), wherein the IDT electrodes and reflector electrodes are placed in the surface acoustic wave propagating direction so as to form a longitudinally coupled mode type filter (see e.g. the Title of the Invention); and wherein the center IDT 36 is an IDT according to claim 1, that is, split into a plurality of divisional IDT electrodes 36a and 36b and connected to a balanced type terminal (see e.g. col. 9, lns. 32-36 and 58-60). Regarding claims 39 and 40, see Fig. 4 which shows a communication apparatus with transmit and receive circuits and the filter/IDT used as elements 60 and 62 in the transmit and/or receive circuits.

Allowable Subject Matter

11. Claims 2-21, 23/2-4, 24-28, 30-34, 36-38 and 40/23/2-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
12. Claims 22, 29 and 35 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
13. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record does not disclose or fairly suggest an IDT or a surface acoustic wave filter using such an IDT, having each of the specifically recited combinations of features,

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and especially wherein in an IDT constructed of a plurality of divisional IDT electrodes connected to a balanced terminal (see claim 1, last three lines), "at least two of said plurality of divisional IDT electrodes are equivalently connected in series and at least one of the remaining divisional IDT electrodes is connected in parallel with said at least two divisional IDT electrodes" (claim 2).

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hartmann et al. U.S. 6,268,782 also discloses [see Fig. 7(a)] a longitudinally coupled SAW filter with an IDT 706 split into two divisional IDTs and connected to a balanced terminal.

Dai et al. U.S. 5,790,000 also discloses (see Fig. 7) a longitudinally coupled SAW filter with an IDT split into two divisional IDTs 36a and 36b and connected to a balanced terminal.

Kadota U.S. 6,346,864 discloses (see Fig. 8) a longitudinally coupled edge reflection type SAW filter with divisional IDTs connected to balanced terminals and used in a duplexer (Fig. 21).

15. Any inquiry concerning this communication should be directed to Barbara Summons at telephone number (703) 308-4947, FAX no. (703) 308-7724, receptionist's no. (703) 308-0956, Supervisory Examiner Bob Pascal (703) 308-4909.



bs
January 21, 2003

Barbara Summons
Patent Examiner
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